REVOX

Re:connect

M300 / M301
Video switch

Dominating Entertainment.
Revox of Switzerland.

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Video switch

In order to be able to work comfortably with the wealth of multimedia devices that are available, the video and audio signals need to be controlled intelligently. The **M300** and **M301** Video switch from REVOX offers you this comfort in some impressive ways.
It can receive many different video and audio signals and then transmits them on to the correct devices.
But it doesn't just distribute these signals, it also processes them, using some incredibly clean and powerful audio and video drivers.

These high quality drivers are even able to process the high-resolution video format **HDTV**.

The video switch is controlled through the **M51**.

Installation

There are two versions of the video switch, which are differentiated from each other by the connector panel that connects the video switch with the **M51**.

M300

The **M300** has a single SCART connector that handles the complete communication with the **M51**, including the video and audio signals.

Correspondingly, you need the **DVD MKII module** with the SCART Connector (**Part no.: 1.551.083.02**) for the **M300**.

M301

The **M301** outputs the audio and video signals through individual RCA plugs.

Additionally, a patch cable (a screened and uncrossed RJ45 cable) is needed for the control functions.

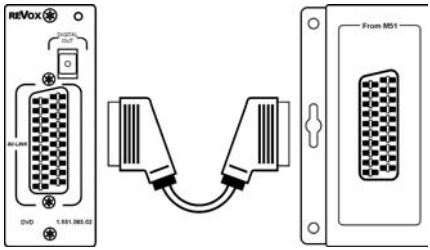
Correspondingly, you need the **DVD MKII module** with the RCA connectors (**Part no.: 1.551.083.03**) for the **M301**.

M300 SCART version

The **M300** is connected to the **M51** DVD MKII module using a fully switched, 21-pin SCART cable as shown in the figure below. The SCART cable delivered with the **M51** fulfils these requirements perfectly.

Important

The **M300** only works together with the **DVD MKII Module** (**Part no.: 1.551.083.02**). The DVD MKII module is easy to recognise as it has an optical digital output, as opposed to the MKI module that has a coaxial digital output.



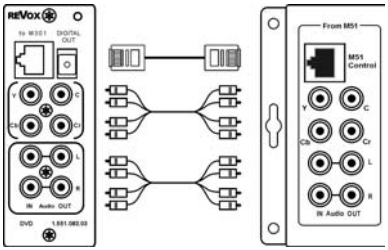
In order not to reduce the picture and sound quality, the complete cable length (**M51**-**M300** + **M300**-**Monitor**) should not exceed **10 m**.

M301 RCA plug version

You will need two RCA stereo pairs for the video signals and two RCA stereo pairs for the audio signals to connect the **M301** with the **M51** DVD RCA module.

Additionally, the **M301** and the **M51** are connected with a **patch cable** (a screened and uncrossed RJ45 cable) for the control functions.

The complete cabling locks like the following:



In order not to reduce the picture and sound quality, the complete cable length (**M51**-**M301** + **M301**-**Monitor**) should not exceed **10 m**.

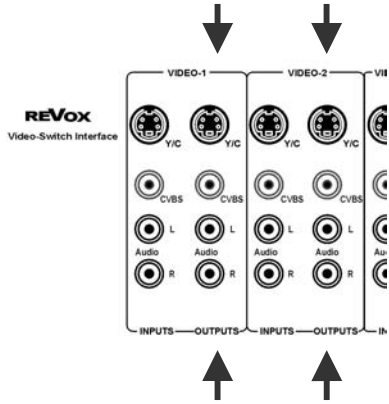
Video switch principle

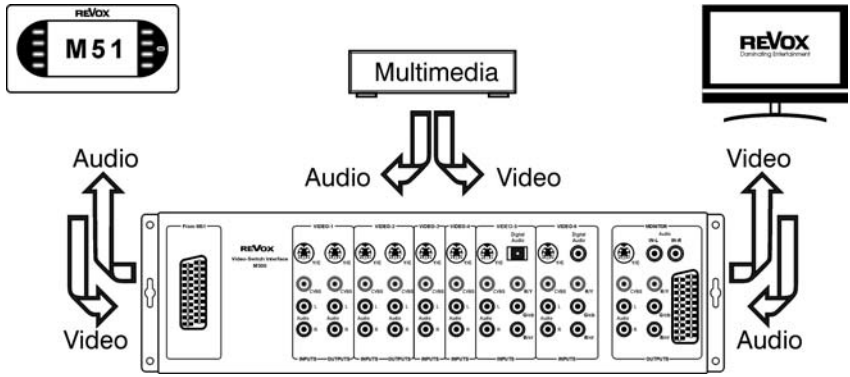
Essentially, the **M300/ M301** video switch is a set of external connections where different video output and different recording devices can be connected.
Connecting a video switch adds an additional 6 video sources (Video 1...6) to the **M51** Source menu.
These additional video sources appear automatically in the **M51** Source menu. If you want to be able to call them with the remote control, the Remote menu must be modified (see the **Remote** section in the **Introduction** chapter).

The **M51** then takes over the complete control of the video switch.

The figure below shows how the different audio and video signals find their way to the individual devices.

Additionally; you have the option of recording audio and video signals with the video sources **1** and **2** (shown below by the arrows), e.g. using a video recorder or video server.





Video switch basic function

Connection options

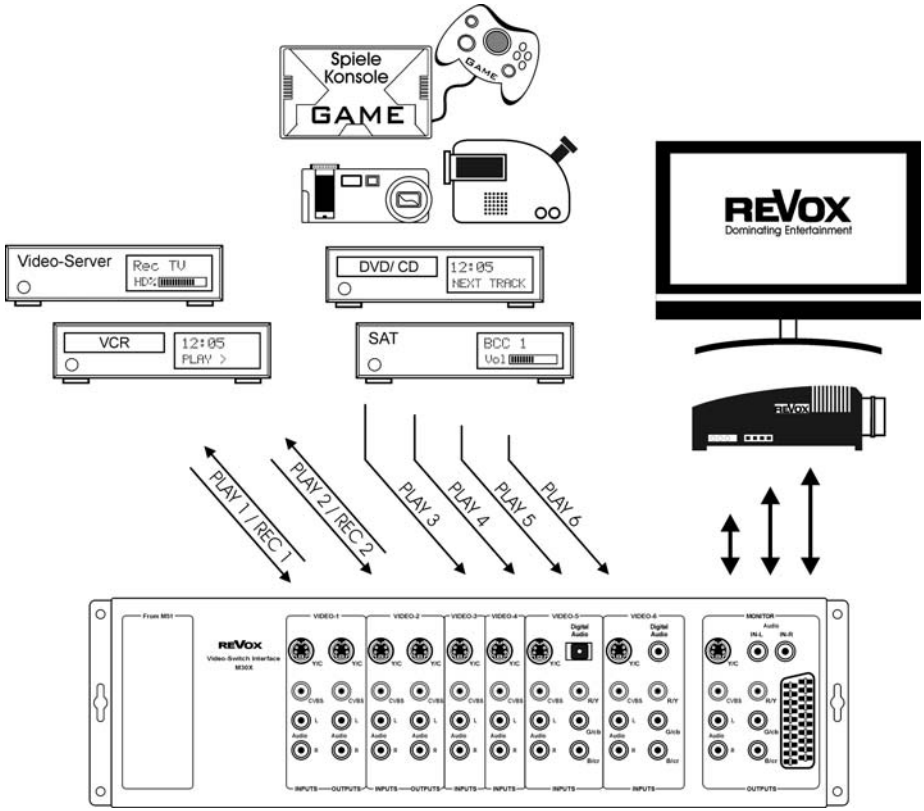
The figure below gives you an overview of the connection options that the **M300** and/ or **M301** offer.

The audio signal from the video sources attached is transmitted by the **M51** whereas the picture signal is handled by the video devices attached, such as TV, video projector, etc.

Additionally, the sound from the **TV** can be put through the **M51.**

In order to make this possible, there must either be a SCART connection to the television or the TV audio output must be connected to the **Audio IN** on the monitor field on the **M300/M301** with a stereo RCA cable.

All other connections are made as shown.



Connection formats

In detail, the following connections can be made with the video sources 1 - 6:

Connection	Video Format		Audio Format	
	Input	Output	Input	Output
Video 1	YC CVBS	YC CVBS	Analogue stereo	Analogue stereo
Video 2	YC CVBS	YC CVBS	Analogue stereo	Analogue stereo
Video 3	YC CVBS	-	Analogue stereo	-
Video 4	YC CVBS	-	Analogue stereo	-
Video 5	YC CVBS RGB YCrCb	-	Analogue stereo Digital stereo Digital 5.1 (Coaxial)	
Video 6	YC CVBS RGB YCrCb	-	Analogue stereo Digital stereo Digital 5.1 (Optical)	
Monitor		YC CVBS RGB YCrCb SCART	Analogue stereo	Analogue stereo

ⓘ
YC = **S-VHS** Signal
CVBS = Normal video signal , also known as **FBAS**
RGB = Component signal with **R**ed, **G**reen, **B**lue
Y Cr Cb = Colour difference signal, also shown with **Y P_R P_B**

You will find a more detailed description in the section *Video mode* in the chapter *DVD MKII-Module.*

Format ⇔ Quality

The quality of the picture reproduction depends to a large extent on the video format you use.

The more parameters that affect the picture, such as brightness, colour and contrast, that are grouped together, the worse the quality of the picture will be. On the other hand therefore, the more parameters that can be set individually, the better the quality.

The following list gives you an overview on this topic:

A Very good picture quality
RGB / YCrCb
3 component signal

B Good picture quality
YC (S-VHS)
2 component signal

C Acceptable quality
CVBS (FBAS)
1 component signal

Important
It doesn't improve the quality of the picture if a YC or even an RGB signal is artificially created out of a CVBS signal. This doesn't increase the amount of picture information, it simply copies it.

Video format

Using the video switch, you connect different video formats to the inputs as well as the monitor output.

As we are dealing with a video switch here, the video signals are output in the same format as they are fed in.

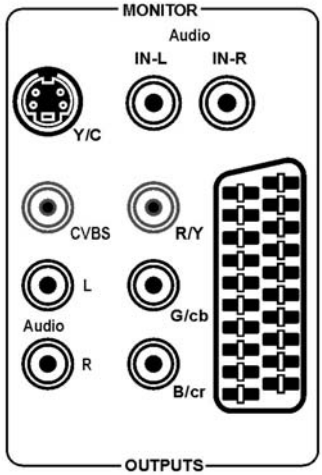
Example:
An **RGB** signal fed into the *Video 5* input will also be output as an **RGB** signal to the monitor output.

No conversion (Up- or Down-Mix) from one video format to another video format is carried out.

YC → CVBS conversion
One exception to this is the **YC** signal. This is the only signal that is converted to the **CVBS** format. In this way, it is possible to feed in a YC signal through the **M51** or one of the six video inputs (S-VHS) but to operate a CVBS device at the monitor output panel.
Additionally, this CVBS signal is also available at the *Video 1* and *Video 2* outputs.

Monitor connection panel

The monitor connection panel is set out the same for the **M300** and the **M301** versions of the video switch.



This is where you connect the devices that reproduce the picture. This can be an LCD or plasma screen or a normal television.
Further, these outputs are also available with projectors and beamers of course.

The television sound from the **TV** source can be put through the **M51** using the **Audio-IN** socket.
With a SCART connection, these audio signals are already integrated.

SCART output features

If your device is fitted with a SCART input, this is the recommended connection to use as you can also output a 6/12 voltage through the SCART connector. This switching voltage automatically switches on the TV device with the correct input, once an RGB signal is present from the **M51** or the *Video 5* or *Video 6* sources.

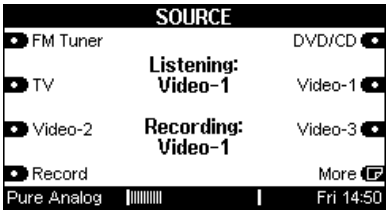
A **pre-quirement** for this is that *Video mode* has been set to **RGB+CVBS** through the DVD MKII module set-up.
This switching voltage is part of the SCART standard and for this reason, it doesn't work with the YC or YCrCb signals.

Parallel operation
Internally, and at the monitor panel, the video switch uses exceptionally clean and powerful video amplifiers. This means that several monitors can be operated in parallel at different outputs without impacting on the quality of the picture.
In this way for example, the television can be connected through SCART while the projector can be fed with a signal from the YCrCb output.

Video switch operation

Selecting the video source

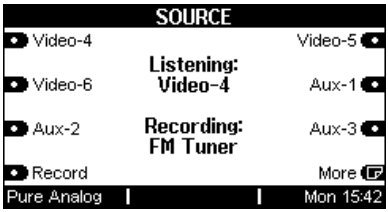
The different sources are selected through the **SOURCE** menu. Press the **Source** button on the **M51** and the following menu appears:



Now you can select the individual **Video** and/or **TV** sources by pressing the corresponding softkey. **Video 1** has been selected in the above display as shown by the text:

Listening:
Video-1

If the required source is not shown on the first **SOURCE** page, simply scroll to the next page by pressing the **More** softkey.

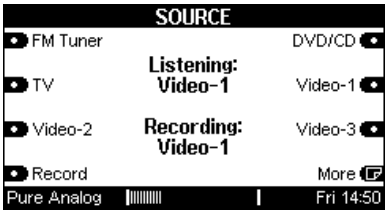


Selecting the recording source

Record

If you want to make a recording using a device such as a video recorder, for example, the **M51** needs to know which source is to be recorded from.

To do this, select the source as described previously in the **Selecting the video source** chapter and then press the **Record** softkey.



Now, the music signal from the selected source (e.g. Video-2, DVD/CD, Aux2, etc.) will be sent to the recording device connected to the **REC-OUT** RCA connector.

This will be shown in the display by:

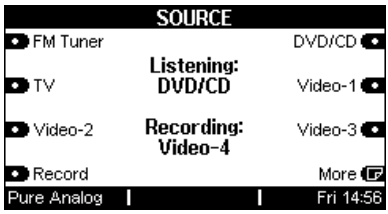
Recording:
Video-1

Free selection of the listening source while recording

The **M51** also offers you the option of listening to one source at the same time as you record another.

You could for example, be recording a television programme on a video server through **Video-1**, while watching a **DVD** at the same time.

To select a different source to listen than the one you are recording, simply select the listening source through the **SOURCE** menu, once you have selected the recording source with the **Record** softkey, as described in the **Selecting the recording source** chapter.



Example:
In the above example, the display shows that you are listening to a DVD/CD while making a recording through Video-4.

Modifying source names

The video switch offers you the option of selecting your own names for the inputs. You no longer have to remember which external device is connected to which input. You can assign names that tell you immediately what is connected where.

You can enter a maximum of 8 characters as name text.

Select the video source whose name you want to change through the **SOURCE** menu. This is possible with:
Video 1 to Video 6 and TV

You call up this function by pressing the **Setup** key for about 2 seconds and then pressing the **Source** softkey.

The following display appears:

Edit function

The following name changing options are available:

The ← **Cursor** softkey moves the [ ] cursor to the left

The **Cursor**→ moves the [ ] cursor to the right

The **Delete** softkey deletes the character at the position where the [ ] cursor is currently located.

The **Insert** softkey inserts a character to the left of the [ ] cursor.

The **Store** softkey saves the currently displayed name and returns you to the Source menu.

The **Cancel** softkey returns you to the main source menu without saving the changes made.

Please note

Whenever you can change a setting using the rotary control knob in the next section, the area to be modified appears in the display between two square brackets **[...]**.
At the same time, the small red **Jog** light next to the knob on the **M51** lights up.

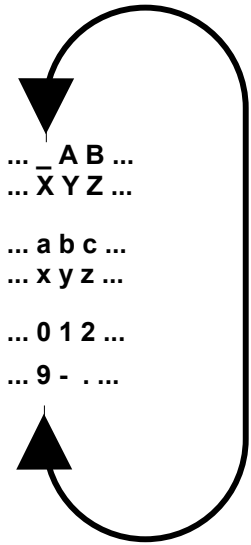
The manual highlights this additionally in the individual sections, with the following symbol:

⇨ **[ ]**

Edit characters ⇨ **[ ]**

The actual modification of the individual characters (letters and digits) is done through the rotary control knob.
When you turn the knob, upper case letters appear in alphabetical order, followed by lower case and then the digits from 0 - 9. This order can be reversed by turning the knob in the opposite direction.

Character order:



Once the required source name has been selected in this way, it can be saved with the **Store** softkey.

If you want to exit without saving, press the **Cancel** softkey.

Example

*In the following example, the input **Video-1** was given the name **Satellit**.*

Restoring standard names

If you want to change a modified source name back to the factory setting, select the corresponding video source from the **SOURCE** menu.

This is possible with:
Video 1 to Video 6 and TV

You call up this function by pressing the **Setup** key for about 2 seconds and then pressing the **Source** softkey.

Now press the **Edit Name** softkey to go to the editing menu.

The standard name is restored by deleting the modified name completely with the **Delete** softkey as shown below.

When you now pres the **Store** softkey, the factory setting name is restored.

You are then returned to the **Setup** menu.

The standard name is now restored. In our example, this would be **Video-1**.

Technical data

Video data

Video bandwidth	Up to 10 MHz/ ± 3dB	(HDTV enabled)
Distortion factor	< 0.1%	
SN ratio	> 60 dB	(Typically .5 MHz)

Replay formats:
S-VHS
CVBS
RGB
YCrCb

Systems
PAL
NTSC

Audio data

Audio bandwidth	20 Hz - 20 kHz/ ± 1dB
Noise voltage spacing	> 100 dB (Typically 1 Vpp)
Channel separation	> 70 dB
Distortion factor (THD)	< 0.02%
Signal amplification	1

Dimensions: 15.35 x 4.15 x 1.58 in. 390 x 105 x 40 mm
Errors excepted. Product subject to modification
Description: Version 0.92 (Controller software DVD-MKII)

Guarantee

The guarantee period is 24 months from the date of purchase.
Your dealer should be your first contact if you need service.
If he can't give you the help you need, send your Video switch, carriage free and without any accessories, to your national Sales Office.
Please supply a complete description of the problem and a full return postal address.